IN THE CLAIMS

Please cancel without prejudice claim 39 and amend claims 33, 37, 47 and 48 as indicated in the following list of pending claims.

Pending Claims

1. (Canceled)

2. (Withdrawn) The device of claim 1 wherein the turns of the helically shaped distal shaft section have a diameter substantially equal to a diameter of the body lumen.

3. (Withdrawn) The device of claim 1 wherein the helically shaped distal shaft section has at least one and one quarter turns having substantially equal diameters.

4. (Withdrawn) The device of claim 1 wherein the shaft comprises a tubular member disposed about a core member.

5. (Withdrawn) The device of claim 4 wherein the core member has distal section having a helical shape.

6. (Withdrawn) The device of claim 4 wherein the core member comprises a NiTi alloy.

7. (Withdrawn) The device of claim 4 wherein the shaft has a lumen extending therein configured to slidably receive the core member.

8. (Withdrawn) The device of claim 1 including a plurality of sensing and pacing and ablation electrodes on the distal shaft section.

9. (Withdrawn) The device of claim 1 wherein the distal shaft section includes a proximal portion having the helical shape, and a distal portion extending from the proximal portion with a noncoiled shape.

10. (Withdrawn) The device of claim 9 wherein the distal portion has a substantially straight shape.

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11. (Withdrawn) The device of claim 9 including a flexible coiled tip extending from the distal end of the proximal portion.

12. (Canceled)

13. (Withdrawn) The device of claim 12 wherein the distal portion has a substantially straight shape.

14. (Withdrawn) The device of claim 12 wherein the at least one electrode is on the helical proximal portion.

15. (Withdrawn) The device of claim 12 including at least one electrode on the distal portion.

16. (Withdrawn) The device of claim 12 having a plurality of ablation electrodes on the helical proximal portion, and at least two sensing and pacing electrodes on the distal portion.

17. (Withdrawn) The device of claim 16 including at least two sensing and pacing electrodes on a proximal section of the shaft located proximal to the helical proximal portion.

18. (Withdrawn) The device of claim 12 including a flexible coiled tip extending from a distal end of the distal portion.

19. (Withdrawn) The device of claim 36 wherein the non-coiled distal portion of the distal shaft section which has no electrodes has a length of about 2 to about 8 cm.

20. (Withdrawn) The device of claim 12 wherein the helical proximal portion has a length of about 0.5 to about 1 cm.

21. (Withdrawn) The device of claim 12 wherein the helical proximal portion has a circumference of about 5 to about 40 mm.

22. (Canceled)

23. (Withdrawn) A method of performing a medical procedure, comprising:

a) providing an electrophysiology device, comprising

an elongated shaft having a proximal end, a distal end, and a distal shaft section having a proximal portion with a helical shape having one or more turns and a distal portion with a noncoiled shape; and

at least one electrode on an exterior portion of the helical proximal portion; and

b) positioning at least a section of the helical proximal portion in contact with a wall defining an ostium of a patient's body lumen; and

c) delivering high frequency energy to the electrodes to form a lesion.

24. (Withdrawn) The method of claim 23 including after (b), moving the turns of the helical proximal portion closer together by distally forcing the catheter against the wall defining the ostium.

25. (Withdrawn) The method of claim 23 wherein the ostium is a junction of a pulmonary vein with a left atrium, and (c) comprises forming a plurality of discontinuous lesions around the ostium.

26. (Withdrawn) The method of claim 23 wherein the ostium is a junction of a pulmonary vein with a left atrium, and the device has at least one sensing and pacing electrode on the distal portion, and including mapping the pulmonary vein by sensing electrical activity with the sensing and pacing electrode.

27. (Withdrawn) A method of performing a medical procedure, comprising:

a) providing an electrophysiology device, comprising

i) an elongated shaft having a proximal end, a distal end, and a distal shaft section with a helical shape having one or more turns configured to conform to an inner diameter of a body lumen of the patient; and

ii) at least one electrode on an exterior portion of the distal shaft section;

b) positioning the device within the body lumen, so that the electrodes contact a wall defining the body lumen; and

c) delivering high frequency energy to the electrodes on the device to form a lesion extending at least in part around the wall defining the body lumen.

28. (Withdrawn) The method of claim 27 wherein the medical procedure is treating a patient for atrial arrhythmia, and (b) comprises positioning the device in a pulmonary vein.

29. (Withdrawn) The method of claim 28 wherein the device has a plurality of electrodes on the helical distal shaft section, and including forming a plurality of discontinuous lesions extending in a helical pattern along a length of the pulmonary vein.

30. (Withdrawn) The method of claim 28 wherein the device has a plurality of electrodes on the helical distal shaft section, and including forming a

plurality of lesions connected together to form a continuous lesion extending in a helical pattern along a length of the pulmonary vein.

31. (Withdrawn) The method of claim 28 wherein the device has a plurality of electrodes on the helical distal shaft section, and including after (c), moving the turns of the helical distal shaft section closer together and delivering high frequency energy to at least one electrode on the helical distal shaft section to form a second lesion continuos with the first lesion.

32. (Canceled)

E/1 cont'

33. (Currently Amended) An electrophysiology device configured to be delivered through an inner lumen of a guide catheter to a desired intracorporeal location, comprising:

a) an elongated shaft which has a proximal shaft section and a distal shaft section, the distal shaft section having a helically shaped proximal portion with at least one turn and a straight distal portion extending distally from the proximal portion;

b) at least first and second electrodes on the helically shaped proximal portion of the distal shaft section; and

c) a centrally disposed, inner core member which extends through ~~at least~~ the proximal portion of the distal shaft section and at least part of the distal portion, which is formed at least in part of superelastic NiTi alloy, [[and]] which is in part in the shape of a helical coil to thereby cause the proximal portion of the

distal shaft section to take a helical shape with at least one loop having operative transverse dimensions in an unstressed condition and which is in part straight to thereby cause the distal portion to extend straight from the helical coil.

34. (Previously presented) The electrophysiology device of claim 33 wherein the loop of the helically shaped proximal portion of the distal shaft section has maximum transverse dimensions larger than transverse dimensions of the inner lumen of the delivery guide catheter.

35. (Previously presented) The electrophysiology device of claim 33 wherein a 360° loop of the helically shaped proximal portion of the distal shaft section has a circumference of about 15 to about 40 mm.

36. (Previously presented) The electrophysiology device of claim 33 wherein a 360° loop of the helically shaped proximal portion of the distal shaft section has a circumference of about 15 to about 30 mm.

37. (Previously presented) The electrophysiology device of claim 33 wherein the helically shaped proximal portion of the distal shaft section has at least one temperature sensor between the first and second electrodes.

38. (Currently Amended) The electrophysiology device of claim 33 wherein the distal shaft section has a ~~non-coiled~~ straight distal portion that has no electrodes along a substantial length thereof.

39. (Cancelled) The electrophysiology device of claim 38 wherein the non-coiled distal portion extends in a substantially straight configuration distally from the helically shaped proximal portion.

40. (Previously presented) The electrophysiology device of claim 33 wherein the distal shaft section has a diameter less than about 5 French.

41. (Previously presented) The electrophysiology device of claim 33 wherein the distal shaft section has a diameter less than about 4 French.

ET Cont.

42. (Previously presented) The electrophysiology device of claim 33 wherein the distal shaft section has from 4 to 12 electrodes.

43. (Previously presented) The electrophysiology device of claim 33 wherein the electrodes are spaced from each other a distance of about 1 to about 3 mm.

44. (Previously presented) The electrophysiology device of claim 33 wherein the distal shaft section has a flexible distal tip coil.

45. (Previously presented) The electrophysiology device of claim 44 wherein the core member extends through the flexible distal tip coil and is secured to a distal end thereof.

46. (Previously presented) The electrophysiology device of claim 44 wherein the flexible distal tip coil has a length of about 1 to about 3 cm.

47. (Currently Amended) An electrophysiology system comprising:

a) a guide catheter which has proximal and distal ends, a discharge port in the distal end and an inner lumen extending therein to and in fluid communication with the port in the distal end and which is configured to be advanced within a patient's vasculature to a desired intracorporeal location;

b) an electrophysiology device slidably which is disposed within the inner lumen of the guiding catheter and which is configured to form a lesion within the patient's heart, comprising:

i. an elongated shaft which has a proximal shaft section and a distal shaft section, the distal shaft section having a helically shaped proximal portion with at least one loop;

ii. at least first and second electrodes on the helically shaped proximal portion of the distal shaft section; and

iii a centrally disposed, inner core member which extends through ~~at least~~ the proximal portion of the distal shaft section and at least part of the distal portion of the distal shaft section, which is formed at least in part of superelastic NiTi alloy, ~~and~~ which is in the shape of a helical coil In the proximal portion to thereby cause the proximal portion of the distal shaft section to take a helical shape with at least one loop having operative transverse dimensions in an unstressed condition when the

proximal portion extends out of the port in the distal end of the guiding catheter and which has a straight shape in the distal portion to thereby cause the distal portion to be straight.

48. (Currently Amended) A method of forming a circular or helical lesion within a patient's heart, comprising:

a. providing a guiding catheter which is configured to be advanced through the patient's vasculature to the desired location within the patient's heart;

b. providing an electrophysiology device which comprises

i) an elongated shaft which has a proximal shaft section and a distal shaft section, the distal shaft section having a helically shaped proximal portion with at least one loop and a straight distal portion;

ii) at least first and second electrodes on the helically shaped proximal portion of the distal shaft section; and

iii) a centrally disposed, inner core member which extends through ~~at least~~ the proximal portion and at least part of the distal portion of the distal shaft section, which is formed at least in part of superelastic NiTi alloy and which is in the shape of a helical coil in the proximal portion thereof to thereby cause the proximal portion of the distal shaft section to take a helical shape with a loop thereof having operative

transverse dimensions in an unstressed condition and which is straight in the distal portion thereof the cause the distal portion of the distal shaft section to take a straight shape;

c. disposing the electrophysiology device within the inner lumen of the guiding catheter with the helically shaped proximal portion of the electrophysiology device being constricted within the inner lumen of the guiding catheter to transverse dimensions smaller than the unstressed transverse dimensions;

d. advancing the electrophysiology device within the inner lumen of the guiding catheter until the helically shaped proximal portion of the electrophysiology device extends out of the distal end of the guiding catheter where the at least one turn of the helically shaped portion self-expands to an operative transverse dimension to fit against the desired intracorporeal location; and

e. delivering high frequency electrical power to a plurality of electrodes on the proximal portion of the distal shaft section to form a lesion.

49. (Previously presented) The method of claim 48 wherein the lesion formed is less than about 7 mm in width.

50. (Previously presented) The method of claim 48 wherein the lesion formed is less than about 4 mm in width.